APRIL/MAY 2023

CAEL44/BAEL44/UAEL44 — BASIC PHYSICS – II

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. How Newton's ring formed?
2. Define specific rotatory power.
3. What is Tyndall scattering?
4. Mention the active materials used in He-Ne laser.
5. State Pauli's principle.
6. Give any two uses of isotopes.
7. Write down the radius of a nucleus.
8. What is isospin?
9. Define length contraction.
10. Write mass-energy equation.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Outline the interference in wedge shaped film.

Or

(b) Explain the half shade polorimeter.

12. (a) Describe the experimental study of Roman effect.

Or

(b) Discuss the Ruby laser.

13. (a) Elucidate the Bainbridge mass spectrometer.

Or

(b) Enumerate the artificial radioactivity.

14. (a) List out the general properties of nuclei.

Or

(b) Interpret the basic ideas of quarks.

15. (a) Discuss the postulates of special theory of relativity.

Or

(b) Elucidate the variation of mass with velocity.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the theory of formation of spectra by transmission grating.

17. Explain: He-Ne laser.

18. Discuss the Millikan's experiment.

19. Explain the classification of elementary particles.

20. Describe the Lorentz transformation.

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